READ ABOUT SCIENCE 1

STARS & PLANETS

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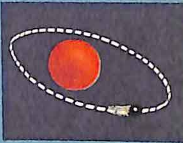

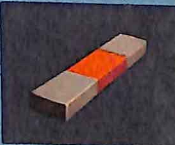

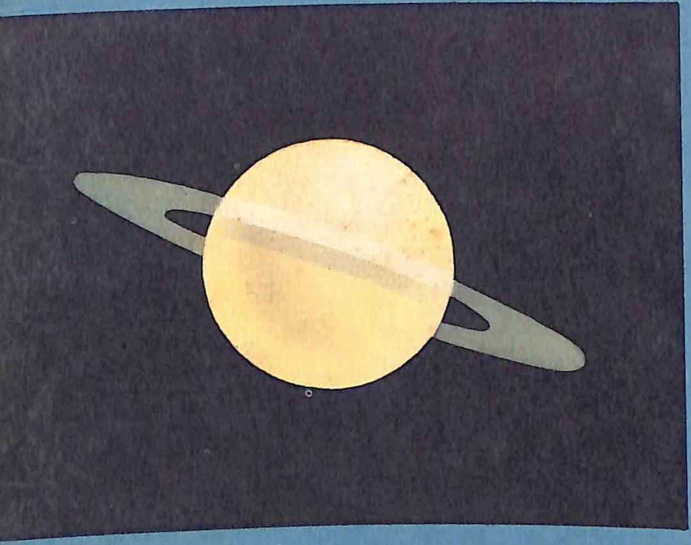

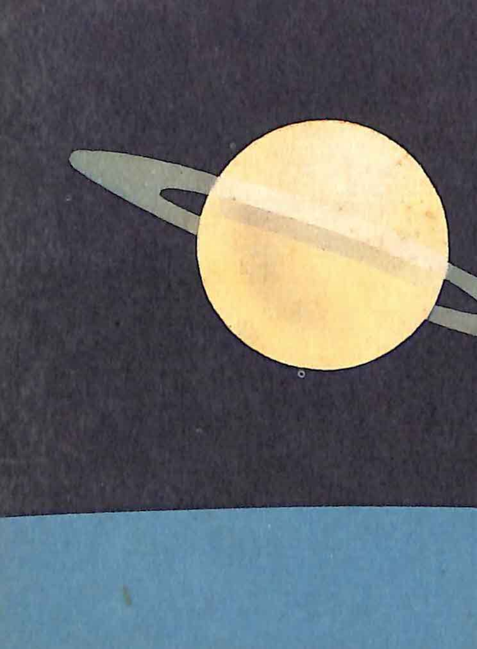

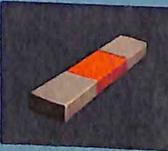
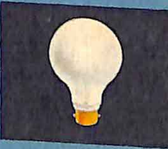

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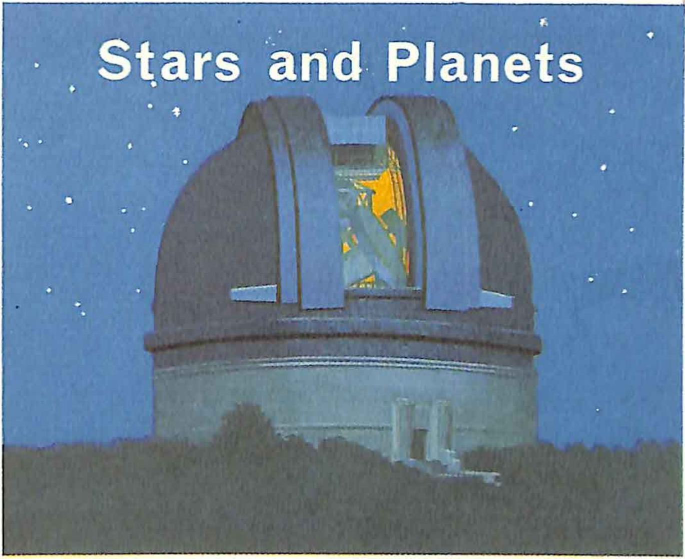
Stars and Planets



In this building is a scientist. He studies the sky, and tries to find out all he can about the stars.

He is an astronomer.

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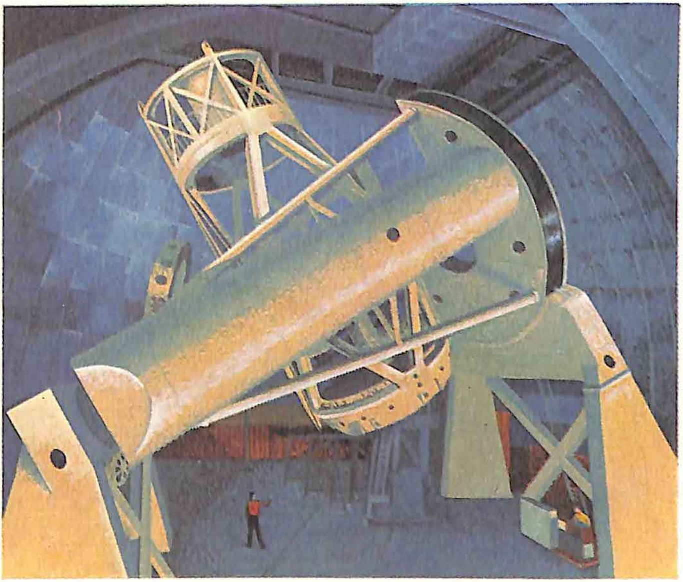
Astronomers look at the stars through very big telescopes. They work in a building called an observatory.

This is usually a dome-shaped building with a sliding roof so that the telescope can be pointed at different parts of the sky.

Most of the time astronomers work at night. Only when it is dark can the stars be seen clearly.

If it is cloudy or foggy the light from the stars cannot reach the telescope.



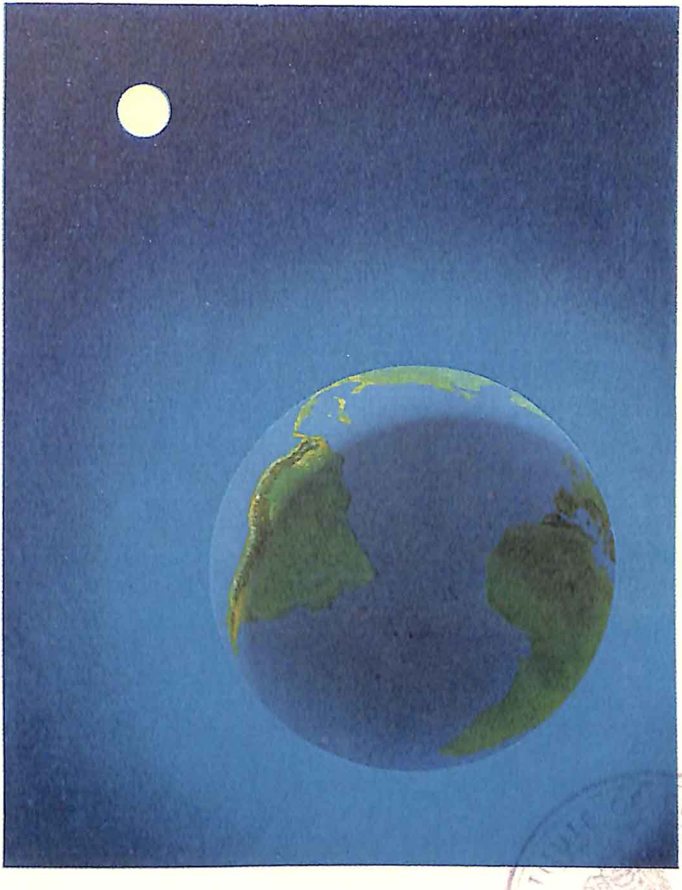
Because of this, observatories are usually built in parts of the world where the weather is mostly fine and the skies are clear.

There are many, many stars in the sky. Some are so far away that the astronomer can only just see them with his biggest telescope.

Even without a telescope you can see about three thousand stars on a fine, clear night.

The nearest star is the Sun, which shines on us and makes us warm. The Sun is almost one hundred million miles away.

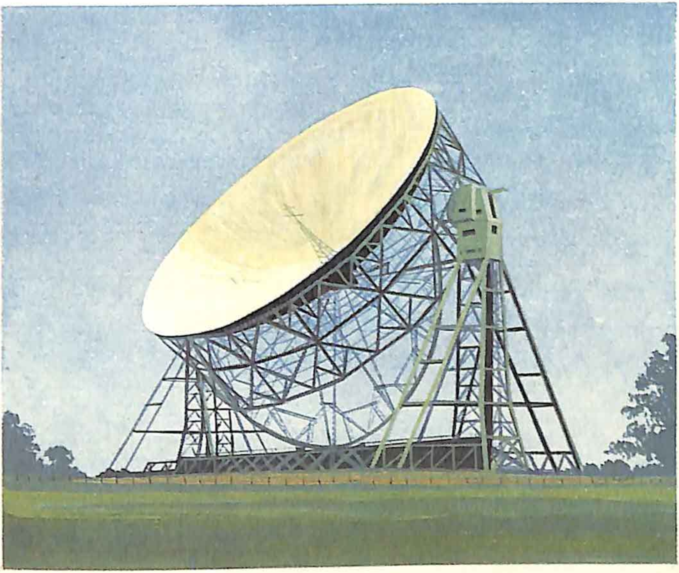
It would take you about a thousand years to cycle this distance on Earth!



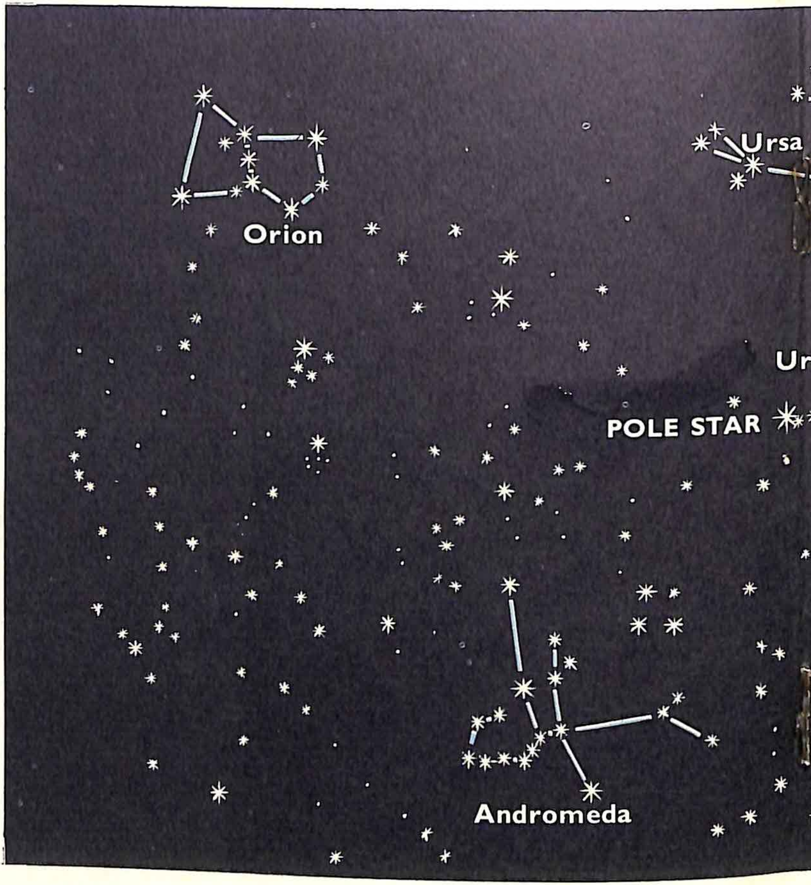
Most stars are very much like our Sun, but are even farther away and can only be seen at night. By looking at the light from stars, astronomers can find out how big the stars are, and how far they are away from the Earth.

Because of the kind of light stars give out, astronomers know that they are very, very hot.

Some stars send out signals as well as the light we see. Special kinds of telescopes called *radio-telescopes* are used to listen to these stars.



Radio-telescopes are just radio sets with big aerials which can be pointed at the stars. Here is one at Jodrell Bank, near Manchester.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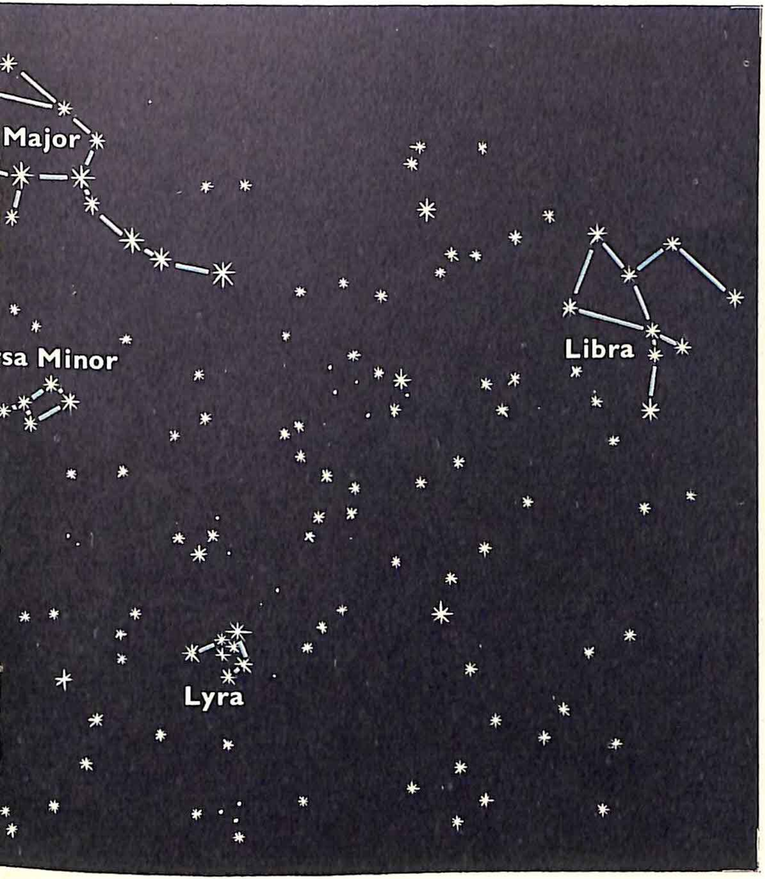
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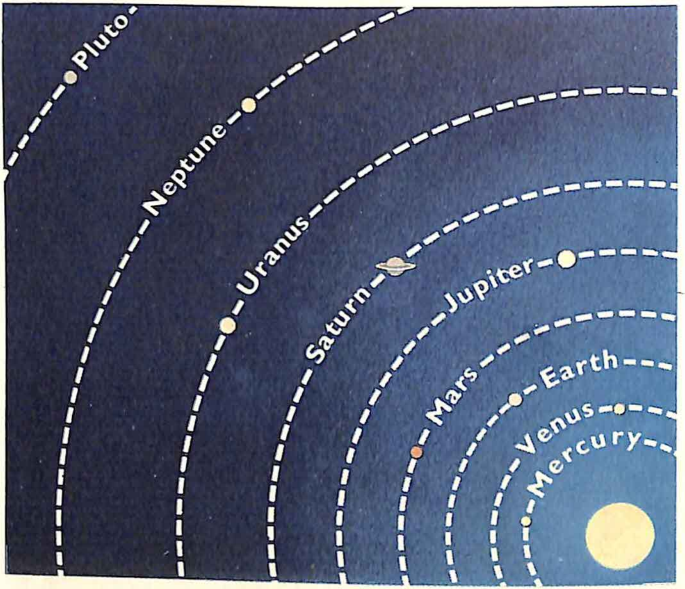
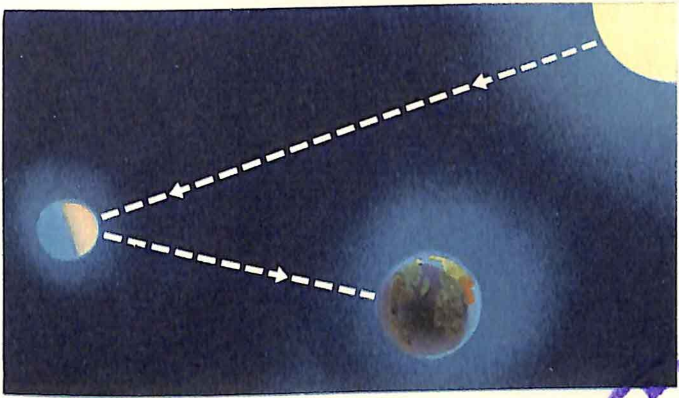


Not all the things you can see in the sky at night are stars. Our Sun has nine planets moving round it. We live on one of these planets.

Planets are not stars. They are not hot like the stars and so do not send out light.

They only seem to shine in the sky because they reflect light from the Sun. The picture shows how this happens.



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People have always wondered if there are living things on other planets. Here is a picture of the nearest planet, Mars, as it would look through a telescope.

You can see the dark lines and patches on the surface of Mars. Astronomers are not yet sure what these lines are. One day soon it will be possible to send a rocket to Mars to find out.

Mars does not have the same sort of air as the Earth has, so it would be very difficult for us to live there.

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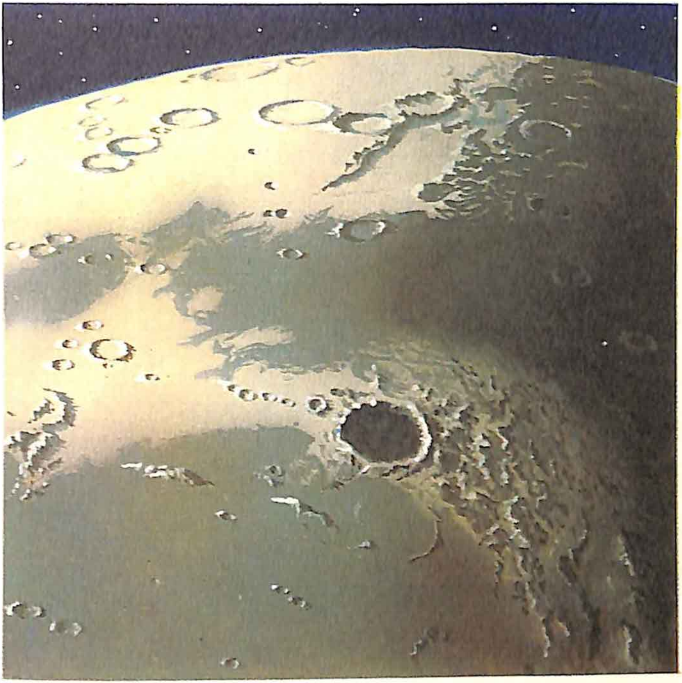
Many planets have other bodies moving round them. The Moon moves round the Earth. It is our nearest neighbour, and is about a quarter of a million miles away.

The Moon is not a planet. Like a planet, it seems bright because it reflects light from the Sun.

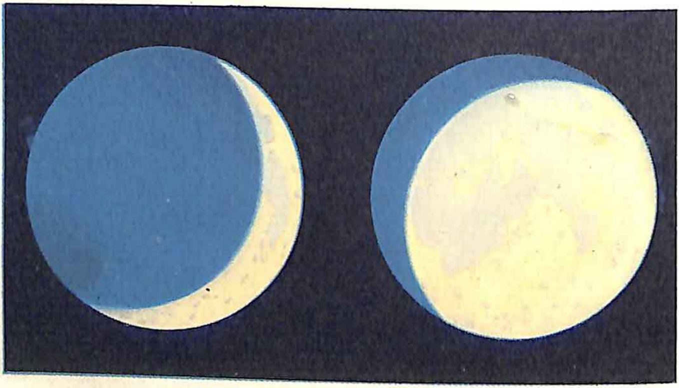
Have you seen the "Man in the Moon?" Look at the Moon on a clear night. It is marked, and sometimes it looks like a face in the sky.

These marks are really craters and mountains on the Moon's surface.



Here is part of the Moon seen through a powerful telescope.

As the Moon moves round the Earth, only parts of it reflect light from the Sun. That is why we see so many shapes.



Other planets also have moons. It is now known that the planet Jupiter has twelve moons. These can only be seen through a telescope.

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